(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization International Bureau



## 10/510450

(43) International Publication Date 16 October 2003 (16.10.2003)

PC7

## (10) International Publication Number WO 03/084526 A1

(51) International Patent Classification<sup>7</sup>: A61K 31/205, 31/22, A61P 15/08, A23L 1/29

(21) International Application Number: PCT/IT03/00214

(22) International Filing Date: 8 April 2003 (08.04.2003)

(25) Filing Language:

English

(26) Publication Language:

**English** 

(30) Priority Data: RM2002A000194 9 April 2002 (09.04.2002) IT

(71) Applicant (for all designated States except US): SIGMA-TAU HEAL THSCIENCE S.P.A. [IT/IT]; Via Treviso 4, I-00040 Pomezia RM (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CAVALLINI, Giorgio [IT/IT]; c/o Sigma-Tau Healthscience S.p.A., Via Treviso 4, I-00040 Pomezia RM (IT). BIAGIOTTI, Giulio [IT/IT]; c/o Sigma-Tau Healthscience S.p.A., Via Treviso 4, I-00040 Pomezia RM (IT). KOVERECH, Aleardo [IT/IT]; c/o Sigma-Tau Healthscience S.p.A., Via Treviso 4, I-00040 Pomezia RM (IT). SARDELLI, Francesca [IT/IT]; c/o Sigma-Tau Healthscience S.p.A., Via Treviso 4, I-00040 Pomezia RM (IT).

- (74) Agent: CAVATTONI, Fabio; Cavattoni Raimondi, Viale dei Parioli, 160, I-00197 Roma (IT).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 03/084526 A1

(54) Title: COMBINED USE OF L-CARNITINE, ACETYL L-CARNITINE AND PROPIONYL L-CARNITINE FOR THE TREATMENT OF OLIGOASTHENOTERATOSPERMIA